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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,209	01/26/2004	Akiyoshi Tafuku	1083.1100	2489
21171	7590	05/31/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			SHIH, THEODORE C	
			ART UNIT	PAPER NUMBER
			3735	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/763,209

Applicant(s)

TAFUKU ET AL.

Examiner

Theodore C. Shih

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/26/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed January 26, 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a full translation of relevant material, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Claim Objections***

2. Claims 1 and 5 are objected to because of the following informalities: Claim 1, line 9, "fist" should be --first-- and Claim 5, line 7, "fist" should be --first--. Appropriate correction is required.

3. Claim 1 is objected to because of the following informalities: Claim 1, line 9, "a tracking area" should be --the tracking area--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 2, 5, 6, 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding Claims 1, 2, 5, 9, and 10, Applicant claims "in image data subsequent to the image data". It is unclear how the

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“image data subsequent” is differentiated from “the image data” as the claim language refers to the same “image data”.

Regarding Claims 2 and 6, it is unclear in claims 2 and 6 whether “subsequent image data” is the “image data subsequent” or “the image data” as claimed in claims 1 and 5 respectively.

Further regarding Claims 2 and 6, Applicant claims “a second area” in claims 2 and 6, however, “a second area” has been previously claimed. Furthermore, there is no previous first area in “a proximity area”. Thus interpreting “a second area in a proximity area” as --a second proximity area-- is also unclear.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-10, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Cornsweet et al.'376 (US Patent 5,410,376). Cornsweet et al.'376 teaches an eye tracking method and apparatus including a video camera (col. 3, line 34); eye tracking system (tracking and storing unit) (col. 4, lines 56-68 and col. 5, lines 1-11); and a computer with three subsystem programs (program code means) including tracking servo loop, pupil recognition and blink detection (col. 5, lines 43-44), capable of storing and comparing a new value (eye characteristic) and old value (eye characteristic, tracking area) from subsequent image data where values are read from four quadrant

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detectors (area of the eye) on the eye (col. 4, lines 62-63) and a difference is calculated between the two values in a FIFO system (calculating correlation value) to calculate whether the difference is greater than 20% of the active signal (threshold) thereby determining whether blinking has occurred (judging open/close state).

Regarding Claims 2 and 6, Cornsweet et al.'376 teaches an eye tracking method and apparatus including a computer (controller) identifying a new value (a second area) in the quadrant detector output (proximity area of the tracking area in the subsequent image data) (col. 13, lines 20-26).

Regarding Claims 4 and 8, Cornsweet et al.'376 teaches an eye tracking method and apparatus including a computer with three subsystem programs including tracking servo loop, pupil recognition and blink detection (col. 5, lines 43-44), capable of storing and comparing a new value (second area) and old value (tracking area) from subsequent image data where values are read from four quadrant detectors on the eye and a difference (change) is calculated between the two values where the new value is stored.

Regarding Claims 12 and 14, Cornsweet et al.'376 teaches an eye tracking method and apparatus including a blink detector subsystem that calculates a rapid change (function) in the quadrant detector sum as the eyelid cuts across the backlighted pupil due to several factors and judging an open/close state of the eye based on the quadrant detector sum change (detected shape of the lid) (col. 12, lines 43-56).

***Claim Rejections - 35 USC § 103***

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 11, 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornsweet et al.'376. Cornsweet et al.'376 teaches an eye tracking method and apparatus including a video camera (identifying means) (col. 3, line 34) and a blink detector subsystem that calculates a rapid change (function) in the quadrant detector sum as the eyelid cuts across the backlighted pupil due to several factors and judging an open/close state of the eye based on the quadrant detector sum change (detected shape of the lid) (col. 12, lines 43-56) but does not expressly teach detecting the shape of a lid in the identified eye area and judging an open/close state of the eye on the basis of the detected shape of the lid.

10. At the time the invention was made it would have been obvious to one of ordinary skill in the art that calculating a rapid change can be detected over the quadrant detectors then the lid shape can also be determined as the lid closing equates to both the rapid quadrant detector sum change and the open/close state of the eye.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theodore C. Shih whose telephone number is (571) 272-7234. The examiner can normally be reached on 8:30-5:00 est.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor II can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Z.S.*  
*5/24/06*

*Charles A. Marmor II*  
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*SPE, Art Unit 3735*